Conference Abstract

Biodiversidata: A Collaborative Initiative Towards Open Data Availability in Uruguay

Florencia Grattarola‡, Daniel Pincheira-Donoso§

‡ School of Life Sciences, University of Lincoln, Brayford Campus, Lincoln, Lincolnshire LN6 7DL, United Kingdom
§ Queen's University Belfast, School of Biological Sciences, MacroBiodiversity Lab, Belfast, United Kingdom

Corresponding author: Florencia Grattarola (fgrattarola@lincoln.ac.uk)

Abstract

Data-sharing has become a key component in the modern scientific era of large-scale research, with numerous advantages for both data collectors and users. However, data-sharing in Uruguay remains neglected given that major public sources of biodiversity information (government and academia) are not open-access. As a consequence, the patterns and drivers of biodiversity in this country remain poorly understood and so does our ability to manage and conserve its biodiversity. To overcome this critical gap, collaborative strategies are needed to communicate the importance and benefits of data openness, exchange and provide technical tools and training on all aspects of data management, sharing practices, focus on incentives, and motivation structures for data-holders. Here, we introduce the Biodiversidata initiative (www.biodiversidata.org) – a novel Uruguayan Consortium of Biodiversity Data. Biodiversidata is a collaboration among experts with the aim of improving the country's biodiversity knowledge and the open-access of the vast resources they generate. Biodiversidata aims to collate the first comprehensive open-access database on Uruguay's whole biodiversity, to support advancements in scientific research and conservation actions. Currently, Biodiversidata consists of over 30 experts from across national and international institutions, studying diverse biodiversity groups. After less than two years, we have collected, curated and standardised a dataset of ~70,000 records of primary biodiversity data of tetrapod species

– the first and most comprehensive open biodiversity database ever gathered for Uruguay to date. However, the process is hampered by multiple challenges:

1.   the lack of support for sampling of specimens and maintenance of collections has contributed to the situation were data are often perceived as personal property rather than collective resources;
2.   institutions have no plans or strategies directed to digitisation of their collections which actually places biodiversity data in Uruguay 'at risk' of being lost;
3.   the scarce governmental and academic incentive structures towards open scientific research relegates data-sharing to a personal decision;
4.   although scientists individually are willing to share their research data, the lack of data management plans within their research groups hampers the capacity to digitise the data and thus, to make them available;
5.   former initiatives aimed to create comprehensive biodiversity databases did not consider the balance between openness and gain for researchers, setting the subject of data-sharing more of an obligation than a path of promotion, which impacted negatively in the perception of scientist to open their data.

To overcome some of these challenges, we decided to direct Biodiversidata to individual researchers/experts and not institutions. We called them with the plan of collecting the maximum possible amount of data from vertebrate, invertebrate and plant species, use it to collaboratively generate impactful scientific research. An important aspect was that we requested data only to fit the premise of being primary biodiversity data (i.e., data records that document the occurrence of a species in space and time). This meant cleaning and standardising very heterogeneous information, from a variety of source types and formats, including updating scientific names and georeferentiating sampling locations. However, centralising the cleaning process allowed researchers to send their raw records without spending time cleaning them themselves and, as a consequence, enlarged the amount of data being collated. Collectively, Biodiversidata's approach towards changing the culture of data-sharing practices has relied on the reinforcement of a scientific collaboration culture that benefits not only researchers at the individual level, but the progress of larger-scale issues as a whole. There is a long way to go on the subject of open research data in Uruguay, though, aiming strategies to people, capitalising data management and progressing with step-by-step rewards, is already showing some preliminary encouraging results.

Keywords

biodiversity, Uruguay, collaborative strategies, open data

Presenting author

Florencia Grattarola

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